The Northwestern MILLER
MILLING PRODUCTION SECTION

WHEAT SLICING AND GERM EXTRACTING PRIOR TO MILLING

By Frank W. Rushton

The Hungarian invention by which grain kernels can be sliced into two, three or four predetermined parts according to the objective of the miller, was brought to North America by Leslie Palyi from Hungary. He presented a paper on the subject at the recent meeting of the Association of Operative Millers in Montreal. Frank Rushton of Ogilvie Flour Mills Co., Ltd., at the request of the Editor, studied the process as described by Mr. Palyi and this article is the result of his findings.

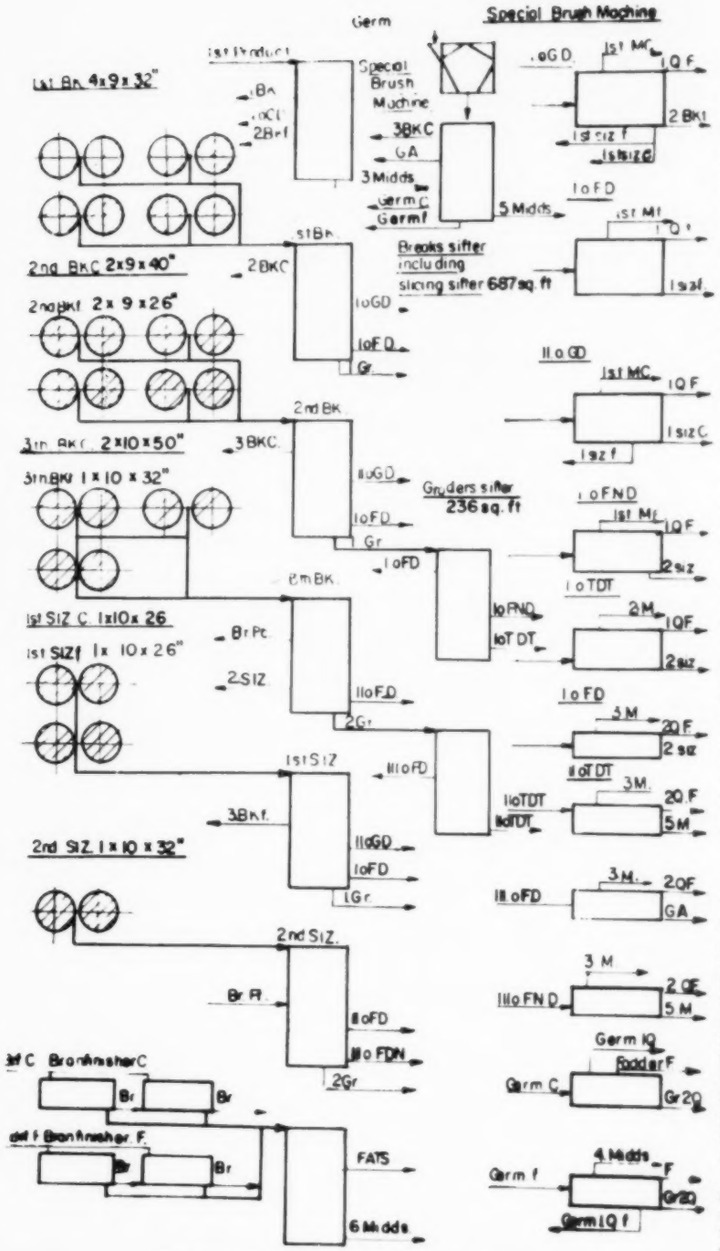


FIG. 1—Mill Flow Sheet with Germ Extraction

TREMENDOUS efforts are apparent in the research quarters of the milling industry all over the world, with workers searching for new methods and processes to improve the quality and increase the quantity of mill products, to serve specific purposes. Improvements are imperative if the miller is to receive his fair share of the consumer dollar.

Methods are desired to separate the various parts of the wheat kernel before actual milling that will enable the miller to vary the protein and/or gluten content at will, and to obtain purer mill products. Any new process must always be more economical.

By-products of the wheat berry not classed as flour were relegated to the chaff pile, boiler room or tail race in the not too distant past; today they may swing the pendulum of the ledger from the red to the black side of the page.

Reclaimed scourings, screenings, dust and chaff not to mention wheat washer dregs have all found their place in the trade and commerce of the nation. Bran, shorts and Red Dog formulations are approaching the status of algebraic permutations. They have been mixed, crossed and blended so many ways. Their "rich" cousin, the germ, must also take a prominent position to maintain its status quo and the era of 100% germ recovery with no loss of precious oil or flour contamination may not be too far distant.

Hungarian Idea

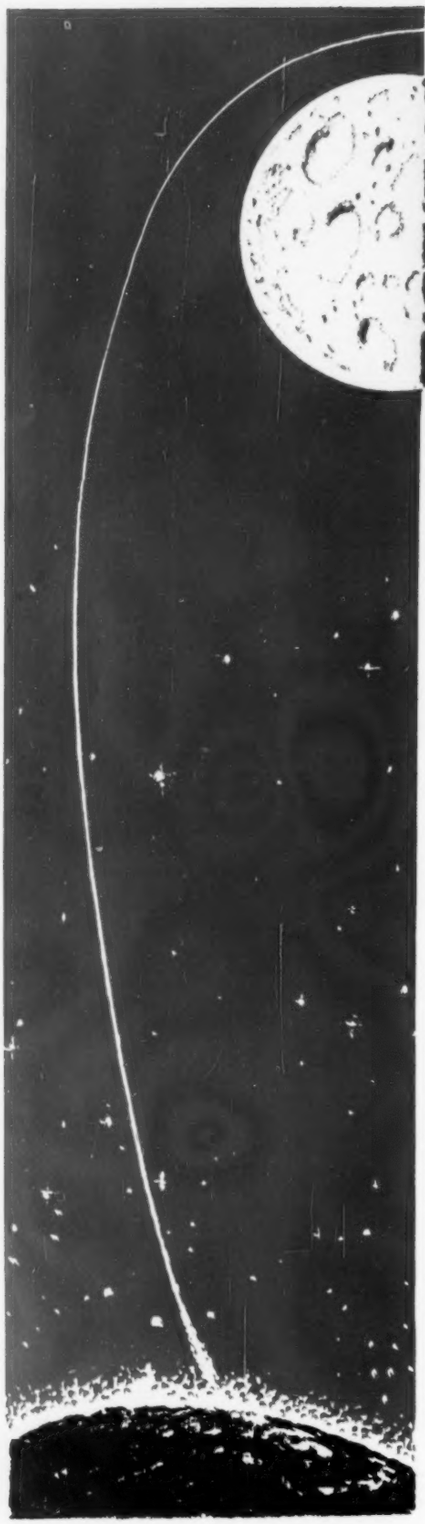
An idea which was developed in Hungary due to the scarcity of wheat after World War II, may well be adapted to the milling trade. The Hungarian experts P. Raykai & T. Kossa concluded that by slicing the wheat kernel crosswise and sowing only the half of the kernel containing the germ, the other half could be used for human nutrition. Their experiments have determined that half kernels of wheat germinate and grow as well as whole kernels and the half kernels often produced a greater crop.

They found the germination of the sliced wheat more rapid, several days ahead of whole kernels, due to the fact that the sliced surface let the moisture and temperature of the soil penetrate to the germ quicker than in the case of the whole kernel where the epidermis tightly covered the germ. They also found that the sliced wheat produced a more vigorous growth in a shorter time, plus a heavier crop, thus giving the sliced wheat a decided advantage over the whole kernel.

The next step was the construction of a machine to slice the wheat on a mass production basis. The machine construction experts of the Hungarian milling industry solved the problem, designing the first wheat slicing machine in Budapest,

(Turn to WHEAT SLICING, page 7a)

Leslie Palyi



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Recovering Wheat from Barley, Broken Wheat from Seeds

By HANS WANZENRIED

THIS is a problem which is not easy for most mills to solve because the circumstances vary so much from one location to another. The necessary equipment varies in type and size, depending on the kind of seeds and grain which have to be removed and on the amount of broken and small wheat kernels which have to be extracted.

Seeds with a mellow endosperm can be crushed with impact and removed with sifting and aspiration. Seeds with a hard endosperm, such as darnel, require a forcing impact action which would break the broken wheat as well. If the above does happen, the problem then has to be approached from a different aspect.

The accompanying flow sheet represents a proposal showing part of the standard equipment of every wheat cleaning house on the upper left, i.e. either disc separators or indent cylinders for the separation of seeds, barley and oats. To the right of this is a reclaiming set-up for broken and large wheat kernels. For the recovery of unhulled kernels, a simple arrangement is provided.

With this proposal no further breakage of the broken kernels will occur, which is already a great advantage. In addition, the miller has the possibility of making adjustments on the gravity table to achieve the desired quality and quantity of separation.

1. 100%
2. Approximately 40%
3. Approximately 27%

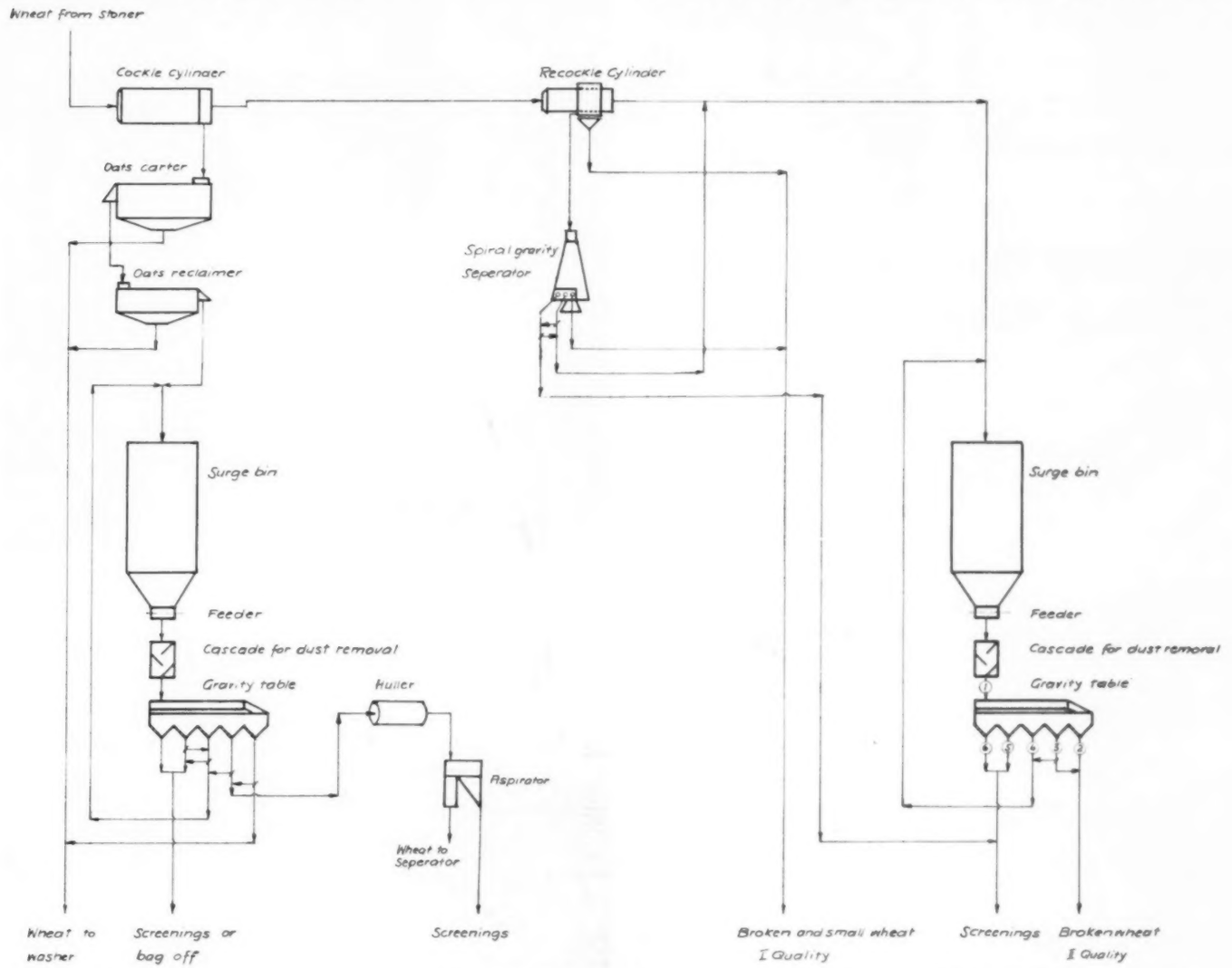
4. Approximately 18%
5. Approximately 10%
6. Approximately 5%

The gravity table shown on the left side is used to separate barley and oats from large kernels as well as unhulled wheat, which will pass through a huller and aspirator afterwards. The recovered wheat is fed back to the separator at the head of the cleaning house. A surge bin with feeder ahead of the gravity table is needed to achieve a uniform operation on the machine.

The gravity table on the right side is used to separate broken wheat from seeds. A surge bin with feeder is needed here also. Ahead of each gravity table a cascade for dust removal assures a dust-free operation. Also, a return facility for spout No. 3 should be provided to achieve a better extraction of a clean product.

EDITOR'S NOTE — Mr. Wanzenried is a milling expert with Buhler Mill Engineering Co.

Picture No. 1 shows the mixture of broken wheat and seeds entering the gravity table. Picture No. 2 represents the product, free of seeds, which amounts to approximately 40%. The product shown in picture No. 3 yields approximately 27% and contains a very small number of seeds. The sum of these two streams is approximately 67% of the gravity table load. Pic-



Flowsheet for Recovery of Wheat from Barley and Broken Wheat from Seeds

ture No. 4 represents the return to the surge bin. Products shown with pictures No. 5 and 6 will be approximately 15% screenings.

Normally these recovered broken kernels contain small stones which were not extracted by the stoner ahead of the carters. Therefore, a small stoner would be desirable. For the control, a small scale before the roller mill would also be helpful.

For grinding of broken wheat some mills have already installed two separate break systems, including sifting. The advantages of such an installation are: Suitable corrugation and sifter cloths, correct guidance of intermediate products, and the possibility of influencing the color of semolina and middlings which are sold as finished products.

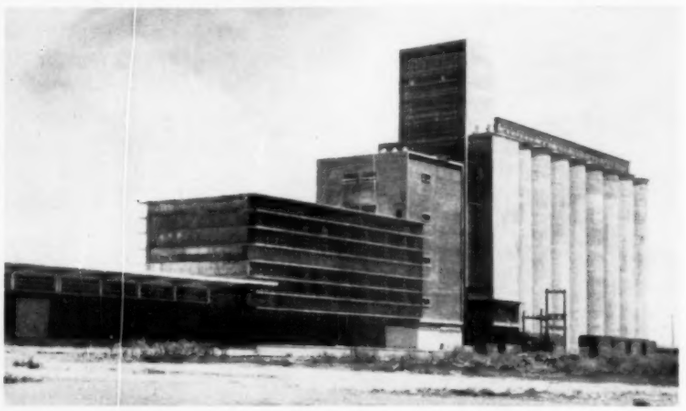
The project, as outlined above, offers low cost for initial investment and high efficiency. It also has the advantage of being able to be carried out in separate steps: (1) For the recovery of broken and small wheat kernels from seeds and (2) recovery of large wheat kernels from barley and oats.

This in turn results in extra earnings, which would not otherwise be realized.

Soft Wheat Milling Plant In Mexico Now Operating

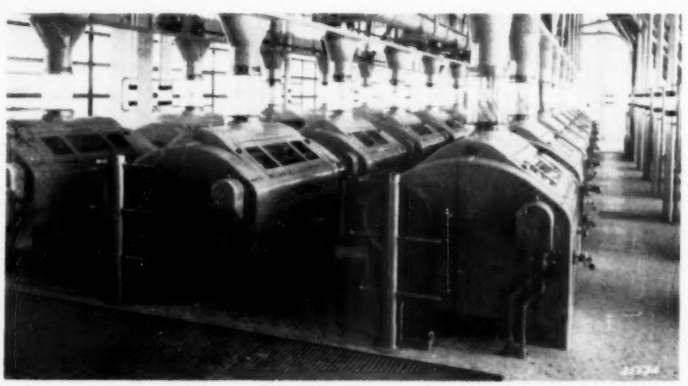
"INDUSTRIAS Unidas de Monterrey S.A." has recently started up Mexico's newest soft-wheat milling plant in Monterrey, the largest industrial city of the country.

The grain elevator has a capacity of 20,000 metric tons and is one of the biggest grain-storage installations Buhler Bros. has built in connection with a flour mill. The intake capacity is 60 metric tons per hour. The lay-out of the intake trough allows eight trucks or five railroad cars to be discharged simultaneously. The incoming grain is pre-classified in 15 bins, assigned by quality and conveyed automatically to the corresponding storage bins. All horizontal conveying is done by means of the Buhler chain-conveyors. A Fluidlift-



Outside view, from left to right: flour-storage; 2-floor-mill building with flour silos; cleaning section. Elevator pre-cleaning tower with 15 classifier bins; storage facilities.

Characteristic of the 2-floor-mill, 3-sieve layer purifiers MQRC and roller-mills installed together on the first floor allow time-saving supervision; in the middle of the picture are the neatly installed pneumatic tubes.



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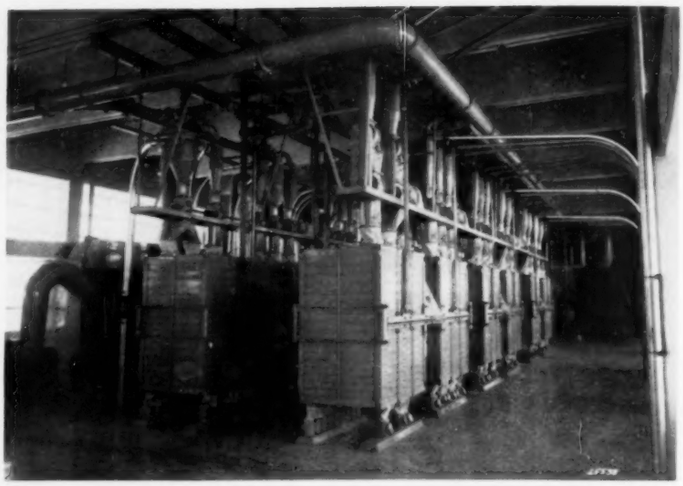
The cleaning section has pneumatic conveying and processes six metric tons of grain per hour. Its flow-sheet is especially adapted to Mexican wheat and to the climatic conditions prevailing around Monterrey. A hot-air conditioner assures perfect preparation of the various types of Mexican wheat.

The milling plant has a daily grinding capacity of 2,000 cwt. flour. It is laid out on two floors. The rolls of the roller mills are fitted with roller-bearings, water-cooling and pneumatic-automatic engaging and disengaging devices. Semolinas and middlings are purified and classified on six 3-sieve-layer purifiers MQRC. The plansifter MPAB was also installed in this plant.

All finished products are conveyed pneumatically into the corresponding flour bins by means of a Fluidlift-System. Mixing and turning-over are also done automatically by the same system. A central switch panel remotely controls, pneumatically, all operations relating to feeding the bins, mixing and discharging the flour.



This is a view of the plansifter MPAB on the second floor of the new soft wheat milling plant in Monterrey, Mexico.

Advanced mill planning has eliminated all elevator conveying in the cleaning section and mill, replacing it by pneumatic systems. The mill is one of the few existing fully pneumatic plants.

The Monterrey mill is one of 30 pneumatic plants which Buhler Bros. has sold in Mexico during the last 10 years.

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Comanche, Bison Wheat Varieties Show High Yields

FORT COLLINS, COLO. — Comanche and Bison, recommended winter wheat varieties for southeastern Colorado, have been among the top-yielding varieties in tests at the Arkansas Valley branch experiment station near Rocky Ford.

Ted Haus, Colorado State University Experiment Station agronomist, reports average yields of 49.7 bu. acre for Comanche over a five-year period from 1955 59. Close behind at 49.4 bu. was Bison.

Another high yielder with a 49.6 bu. average for the five-year period was Concho, a variety not yet recommended in Colorado because it has had poor performance some years.

Wichita, on test at Rocky Ford for the past two years, showed an average yield of 31.8 bu. In 1959, however, it produced 48.8 bu., compared with 14.8 bu. in 1958 when all yields were in the 14-17 bu. range.

Crockett, a new variety developed by the Texas experiment station, was tested for the first time at Rocky Ford this year and yielded 48.5 bu. This is essentially a Wichita-type variety, according to Mr. Haus.

Meimi averaged 73.1 bu. acre to head the list of winter barley varieties over the five-year test period. It has been a recommended variety for four years. But Hudson, a variety released last year and also recommended, has outyielded Meimi during the three years Hudson has been under test. The three-year average yield was 65.2 compared with 48.8 bu. for Meimi during that period.

Dicktoo Low Yielder

The five-year average for Pueblo was 61.5 bu. Dicktoo, also under test for five years, has been a low yielder with an average of only 51.9 bu. A West Virginia selection was also low in yield with a 39.8 average over the two years it has been tested.

Among spring barleys, Hiland was a consistently high yielder under irrigation with an average of 54.2 bu. Lico III was slightly higher at 55.6 bu. but it is difficult to thresh clean, Mr. Haus notes.

Two-year tests with spring oats show Fulton and Markton the highest yielders for southern irrigated areas. Average yields were 38.8 and 32.4 bu. acre, respectively.

Two hybrid oat selections, each having Clinton as one parent, are being evaluated as possible replacements for Clinton as a nurse crop. One of the hybrids, Clinton 59, has a two-year average of 31 bu., well above the Clinton average of 20.3 bu. The other hybrid, Clintland, is just below Clinton with a 19.6 average.

One of the reasons for the relatively low yields of Clinton-type oats in these tests is that these varieties seem particularly attractive to birds, Mr. Haus says. Sparrows and finches around the Arkansas Valley station flock to the fields when the oats are in a very young stage. Because of this bird damage, the Rocky Ford yields of Clinton are not indicative of this variety's potential yield, he stated.

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WHEAT SLICING

(Continued from page 1a)

an improved model of which was shown at the Budapest World Exhibition in 1958. This wheat slicing machine, combined with the conventional milling system, was tried in small mills near Budapest. The results from these mills were encouraging, indicating that a reduction of milling equipment and conventional milling process is possible if wheat slicing machines are used and good milling results are still possible. Better quality flour can be produced with lower fat content and conversely the germ processing industry may expect a purer germ product with considerable less offal contamination.

The wheat slicing and germ extracting machine cuts off the two ends of the wheat kernel and separates them; a vibrating brush cleans the middle segment of loose particles without any loss of valuable material. The germ containing end of the kernel is conveyed to a section where the germ, still intact and in its natural form, is cleaned of bran and flour. The germ is produced uncrushed and without loss of its valuable oils before the actual milling process begins. The middle section, minus germ and beard, will mill much easier, the gluten and starch separate more effectively. This slicer has an approxinmate capacity of 140 bu. of wheat an hour and by changing the adapting rings, an easy operation, the slicing machine may be adapted to other types of grain, the only exception being those of spherical shape.

While the European models of the wheat slicer were installed primarily in mills with only three breaks, the machine fits readily into conventional North American 4 and 5 break mills. Preparation of the wheat mix before wheat slicing is not changed in any way from normal wheat tempering. The ideal slicing moisture is 15% to 15.5%. This alleviates any drastic flow changes in the conditioning department and leaves only the necessary installation ahead of first break rolls. Where wheat slicing has been successfully adapted to some of the European flour mills, a pre-break sifter has been installed to insure a uniform product to the first break rolls as indicated in Fig. 1, depicting a 3 break system augmented by wheat slicing, however North American mills in general have limited space and the sifting ahead of first break is not essential.

In Fig. 2 the grain enters the hopper (1), at the bottom of which the individual kernels are picked up by indented or pocketed belts No. 6, Fig. 3. Limit blades adjusted to the proper depth prevent more than one kernel per pocket. The belts are arranged in batteries as shown in the cut-away portion of Fig. 4. The belt carries the grain upward and forces it past the power-driven self-sharpening blades, No. 7, Fig. 4, where the kernel is sliced as shown in Fig. 5.

The middle segment of the kernel is dropped down the outer section of the slicing machine to the outlet (30) Fig. 2 and from there to the first break rolls or a sifter to follow the conventional milling process.

The detached beard and germ ends fall to the inner sections of the slicing machine where the germ containing segment is electrostatica ly separated from the other fragments and

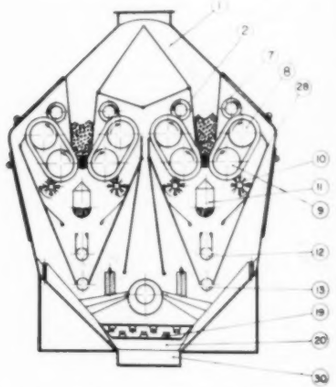

FIG. 2—The main parts of the machine are 1, Hopper; 2, Feeder Plate; 7, Self-sharpening Knife Blades; 8, Belt Roll dith fixed bearings; 9, Belt Roll with adjustable bearings; 10, Rotary Brush; 11, High Tension Electro Static Separator; 12-13, Pneumatic Lifts; 19, Vibrating Cleaning Mechanism; 30, Outlet.

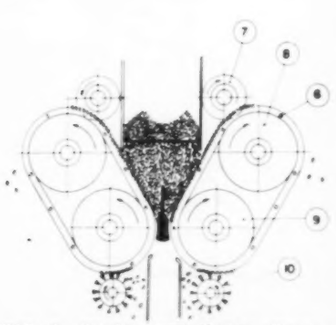

FIG. 3—Feeding and Slicing Operation.

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sent to the germ extraction process via pneumatic conveying from 12 or 13, Fig. 2. The beard ends of the kernel can be sent to third break fine, third sizing or Y roll depending on the acceptability of the product in

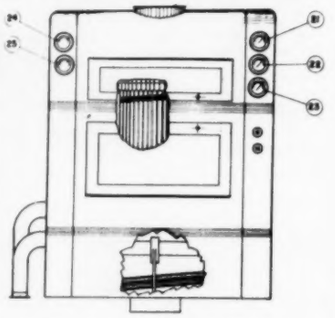


Fig. 4—Front View of Machine.

the flow design, via pneumatic conveying either 12 or 13, Fig. 2.

The germ extracting machine, Fig. 6 and Fig. 7, consists of a vertical spiral brushing chamber, Fig. 6, which gently rubs the whole germ free of clinging endosperm and bran coat. The mixture of whole germs and dislodged bran and endosperm drops into the germ separator, Fig. 7, where adjustable air currents separate the whole germ and send it to the desired location, depending on whether the product is to be packed out whole or in the conventional flaked form.

The offal from the germ separating operation can now be routed to either third break fine, third sizing or Y roll, again depending on its condition and desirability.

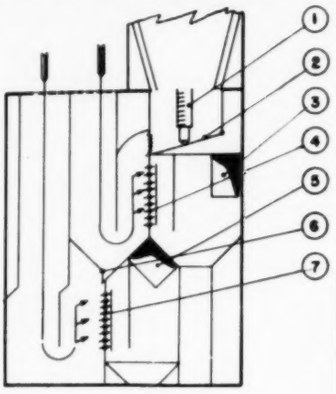
The elimination of wheat germ from all the break and reduction operations of the flour mill is rather hard to grasp since the miller has been plagued with germ fragments and germ oil in his flour since the art of milling began. Certainly this operation brings milling farther into the scientific fields as do countless other improved techniques of the past decade or two.

While there may be many mills producing "pure" wheat germ, needless to say these same mills would welcome an increase in production of 50% to 100%, and the wheat slicing theory holds a potential of upwards of 500% increase in pure germ production.

The shelf life of all wheat products is shortened by the inclusion of germ and its oils. Eliminate the germ and the storage life of the mill product is prolonged.

Broken germ in durum semolina and granular products detract from their clear amber appearance. Rid the streams of the germ fragments ahead of breaking and grinding and a more acceptable durum product reaches the consumer.

To meet rigid specifications of baker and processor, along with federal regulations, dietary requirements, plus the increasing technical skill of the miller, the wheat berry is rapidly approaching the status of the pig where the only wasted portion is the squeal. The wheat slicing and germ extraction ahead of breaking and grinding may be a step nearer that goal. Losses, whether visible or invisible, make poor reading in the year-end statements. The recov-



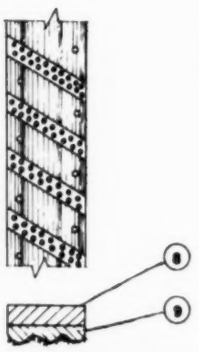


FIG. 7—Germ Separator. 1, Automatic Shaft Feeder; 2, Feeder Plate; 3, Air Outlet; 4, Air Control; 5, Air Outlet; 6, Adjuster for Product; 7, Air Control; 8, Brush Base; 9, Brush.

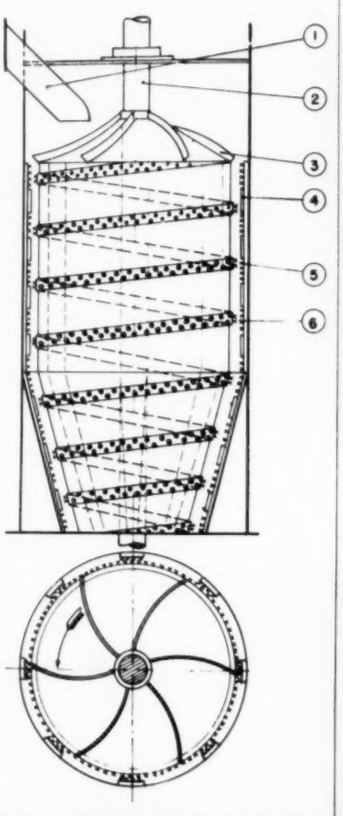


FIG. 6—Vertical Section of the Machine. 1, Inlet; 2, Shaft; 3, Inlet Feeder; 4, Brush Springs; 5, Adjustable Vertical Brush; 6, Spiral Brush.

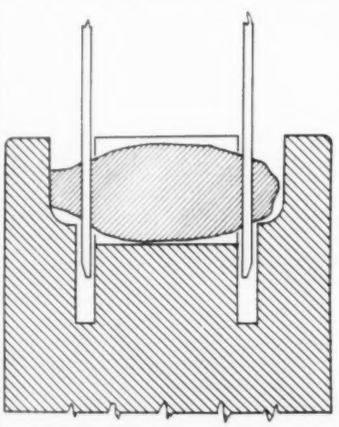


FIG. 5—Showing a pocket on the surface of the belt.

. . . and here is how and why you can make such tremendous savings with it!

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TAPE SAVINGS OVER 98% GLUE SEALING COSTS LESS THAN 2% OF WITH OUR TAPE. EXAMPLE: PLANTS PUTTING OUT 2,400 AVERAGE SIZE BALES PER 8 HOUR DAY CAN . . .
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ery of a far greater percentage of germ with the added benefit of less flour contamination by germ oil would bear some careful study.

The slicing machine's adaptability to all grains, excepting those of a spherical nature, lends itself well to the slicing of grains to be included in pelleting processes where floury ground stocks are undesirable, and where whole grain, if pelleted, not only tends to induce crumbling but does not readily digest. The grain, sliced to three or four pieces, pellets easily, is not readily dislodged from the pellet and reaches the digestive tract in a more convenient form.

The effect of this machine on, and acceptance by, the milling industry may reveal a distinct innovation in flour milling circles which could have far reaching results in production, technical advancement and economical returns. Only the future holds the answers.

——BREAD IS THE STAFF OF LIFE——

Protein, Amino Acid Research Urged by USDA Committee

WASHINGTON—New information on human requirements for protein and amino acids is needed from research, members of the U.S. Department of Agriculture's Food and Nutrition Research Advisory Committee agreed at their annual meeting in Washington recently.

Lacking is knowledge of factors affecting protein requirements when proteins are fed as common foods in customary diets, the committee said. At present, knowledge of amino acid requirements is limited to findings from studies with a small number of infants and children who were fed semi-synthetic diets.

Committee members also attached high importance to the problem of pesticide residues in agricultural products, pointing out the need for greater research effort to provide information to protect the health of the public against residues carried by human and animal foods.

Information about the exact human metabolic response to different types and amounts of fats and fatty acids in food and the relationship between fat and the well-being of humans is also an important need, according to the committee. In addition, more knowledge is needed on the fatty acids and other lipid fractions in a wide range of foods as now eaten. Improved analytical methods that are becoming available should make it possible to develop such information, it was reported.

The committee also recommended research keyed to the development of methods of measuring quality factors in foods and relating these to product properties observable by consumers.

Established under the Research and Marketing Act of 1946, the committee is composed of food and nutrition authorities from all over the nation. Its detailed recommendations for food and nutrition research to be undertaken by USDA will be submitted formally to the department within the next few weeks.

Dr. Harold H. Williams, head of the Cornell University department of biochemistry and nutrition, Ithaca, N.Y., was reelected committee chairman, and Dr. Day Monroe of Topeka, Kansas, was renamed vice chairman.

New Booklet Issued On Overheating Corn

WASHINGTON — A booklet on "The Overheating of Corn by Artificial Drying" has been issued by Corn Industries Research Foundation, Inc., in Washington.

The booklet points out that overheating of corn touches off a chain reaction of trouble for corn farmers, elevator men and merchants, feeders and processors.

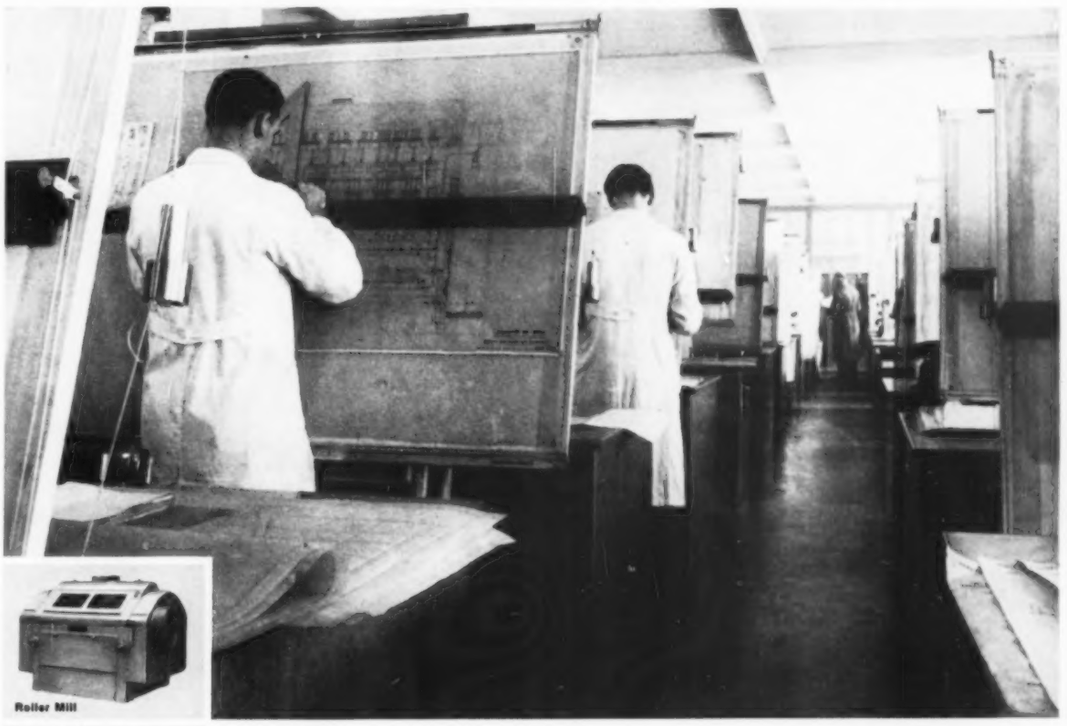
It adds that too much heat ruins seed corn and markets are limited for such damaged corn, that buyers have little use for heat-damaged corn and that lowered grades can result, that feed values of corn may be lessened by excessive heat, and that corn dried at elevated temperatures on the farm or at the elevator creates serious processing difficulties among industries which use corn as a raw material.

——BREAD IS THE STAFF OF LIFE——

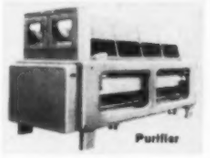
Exchange of Canadian Grain Stocks Allowed

WINNIPEG—So that farmers in Western Canada may secure seed requirements, the Canadian Wheat Board will allow grain elevator companies to exchange board stocks of wheat, including durums, oats and barley for lower grades of such grains. The exchange will be on a bushel-per-bushel basis and cash settlement must be made for the difference in grade, basis the board's domestic sale price on the date of the exchange plus the usual elevator service charges. The policy is now in effect.

Exchanges must not exceed a maximum of 2 bu. per acre seeded to that grain in 1959 and shown in the producer's 1959-60 delivery permit book.



Roller Mill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The Sales Engineer who visits you to survey your needs . . . the Design Engineer and Head Miller who work out the Flow Sheet best suited to your requirement . . . the Project Engineer and Draftsmen who prepare and draw up the detailed plans . . . the Head Erector who supervises the installation . . . all are factory-trained and specialists in their field. They are expert in finding ways in which you can save money through good mill design and efficient operation.

Behind these engineers is the experience gained from the designing and operation of hundreds of modern mills located in practically every country of the world where grain is milled.

As a matter of fact, more mills are now operating with BUHLER *Equipment and* BUHLER *System than with any other.*

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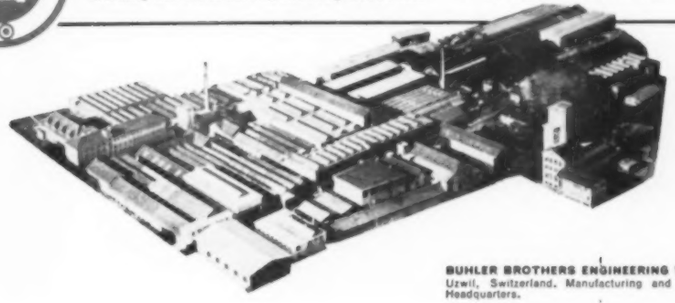

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Cargill Research Widens Activities; New Posts Created

MINNEAPOLIS—A major broadening of research activities, including establishment of two new departments and creation of three executive posts, has been announced by the research and product development division of Cargill, Inc.

New departments include a biochemical section and a process development group, both located at Cargill research headquarters here.

Dr. A. Richard Baldwin, research director, who announced the additions, said, "These functions, coupled with our present activities, enable us to investigate an even wider range of new and different uses for agricultural products." Other company research operations include analytical and organic chemistry, vehicle development, grain, vegetable oil, hybrid corn and sorghum breeding stations and the Cargill-Nutrena research farm.

Dr. Russell Eversole, former professor at the University of Connecticut and Stanford University, will head the new biochemistry section, Dr. Baldwin said. He also announced the appointment of F. P. Spencer as assistant to the research director and Elio J. Guidarelli as manager of the process development group.

Dr. Eversole, a graduate of the University of Illinois and Stanford University, also was staff biochemist at the Eye and Ear Hospital, Pittsburgh. He is a member of the Association of Vitamin Chemists, Sigma Xi and Sigma Pi, honorary professional fraternities.

Mr. Spencer joined Cargill in 1950 and has served as soybean and soybean meal merchant and manager of economic survey research. He was graduated from the Massachusetts Institute of Technology with a major in physics, and holds a master's degree from Harvard Business School. He is a member of the American Marketing Assn.

Mr. Guidarelli joined Cargill in 1950 in flax plant operations and transferred to research as process engineer in 1957. He is a member of the American Society of Agricultural Engineers, Federation of Minnesota Engineers and holds a law degree from LaSalle University.

Suggested Revision Of Barley Standards Announced by USDA

WASHINGTON—A proposal to revise the Official Grain Standards of the U.S. for barley has been announced by the U.S. Department of Agriculture.

The revised standards would change the maximum limits of skinned and broken kernels in both grades No. 2 and No. 3 for the subclasses malting barley and blue malting barley. In the No. 2 grade of the subclasses malting barley and blue malting barley the limits would be changed from 7 to 6%; in the No. 3 grade of the subclasses malting barley and blue malting barley they would be changed from 10 to 8%. These changes make it necessary also to change the maximum limits of skinned and broken kernels in the definition of the subclass malting barley of the class barley.

The revisions are being proposed at the request of the Malting Barley Improvement Assn.

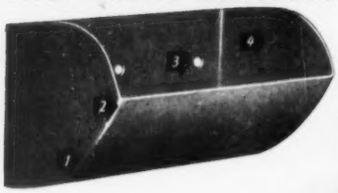
Persons interested in the proposal may submit written data, views and arguments, not later than Dec. 28, to the director of the grain division, Agriculture Marketing Service, U.S. Department of Agriculture, Washington 25, D.C.

The revised standards are scheduled to be published in the Dec. 1 Federal Register.

Mitchell S. Soro

SALES POST—Mitchell S. Soro has joined the Chicago office of the Day Sales Co., Minneapolis, as assistant district manager, it has been announced by Max R. Springer, company president. Mr. Soro, a graduate of Illinois Institute of Technology, Chicago, has a bachelor of science degree in chemical engineering. He will report to D. James Dowd, district manager in charge of the Chicago office. The office handles sales in northern Illinois, northern Indiana, southern Wisconsin and eastern Iowa.

First Choice Wherever Grain is Handled



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—BREAD IS THE STAFF OF LIFE—

Integration No Threat To Pricing System, Says Food Economist

SAN FRANCISCO—Vertical integration poses no threat to the pricing system and to competitive pricing, according to Dr. Roger W. Gray, associate economist in the Food Research Institute, Stanford University, Palo Alto. Dr. Gray, researcher in food economics, told a businessmen's luncheon meeting in San Francisco recently that the trend toward vertical integration in agriculture and elsewhere may actually spur the development of open markets. "We sometimes fail to recognize new markets when they are developing," he said, "and vertical integration can mean market improvement.

"The system is more likely to strengthen rather than weaken the economy, and does not eliminate price competition.

"To some extent," Dr. Gray said, "vertical integration is an alternative system to market coordination, and may be of profound economic significance. To some extent, inadequate coordination between pricing systems may lead to vertical integration, and a major result of vertical integration is the displacement of market coordination.

"But vertical integration need not preclude market coordination," Dr. Gray added.

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Grant Authorized For Mold Research At Washington State

SPOKANE, WASH.—The Washington Wheat Commission recently authorized a grant of $5,870 to Washington State University for the study and control of pink and speckled snow molds of winter wheat, according to Verne Barbre, chairman.

"The production of winter wheat is reduced at least 5 to 10% per year over vast areas in the state of Washington due to these different types of snow molds. The loss in the state has been well over $1 million annually during light snow mold years, and much more during severe ones. In Douglass County alone, about 60,000 acres of a total 250,000 lie in 'bad' snow mold country," Mr. Barbre said.

Dr. Roderick Sprague, department of plant pathology, WSU, will be in charge of the project with research being conducted primarily at the university and the experiment station at Wenatchee.

This grant is one of six awarded the university by the commission for production and marketing research to benefit all wheat producers in the state of Washington. Commission funds accrue through a ¼¢ bu. assessment on all wheat produced within the state. The commission was established in May 1958 and represents the producers self-help program to finance programs of research, promotion and market development.

—BREAD IS THE STAFF OF LIFE—

Fuller Appoints Joseph R. Perry New Office Manager

CATASAUQUA, PA.—As part of a general revision and enlargement of its representation in the south and southwest, Fuller Co. has announced the opening of a district office in Houston.

Designed to serve the increasing demands of customers in the area, the new office will be managed by Joseph R. Perry. For the past eight years, Mr. Perry has been sales and service engineer for Fuller Co. in the territory consisting of southern California, Arizona, New Mexico, and west Texas.

As part of his new duties, Mr. Perry will render technical assistance on Fuller's line of pneumatic conveying systems to Power Machinery Co., a Fuller representative with headquarters in Tulsa and branch offices in Dallas, Houston and Kansas City.

Mr. Perry was a sales engineer for Sutorbilt Corp., Los Angeles, now a subsidiary of Fuller Co., from 1948 to 1951. Prior to that he was an estimator with the Sacramento (Cal.) Utility district for one year.

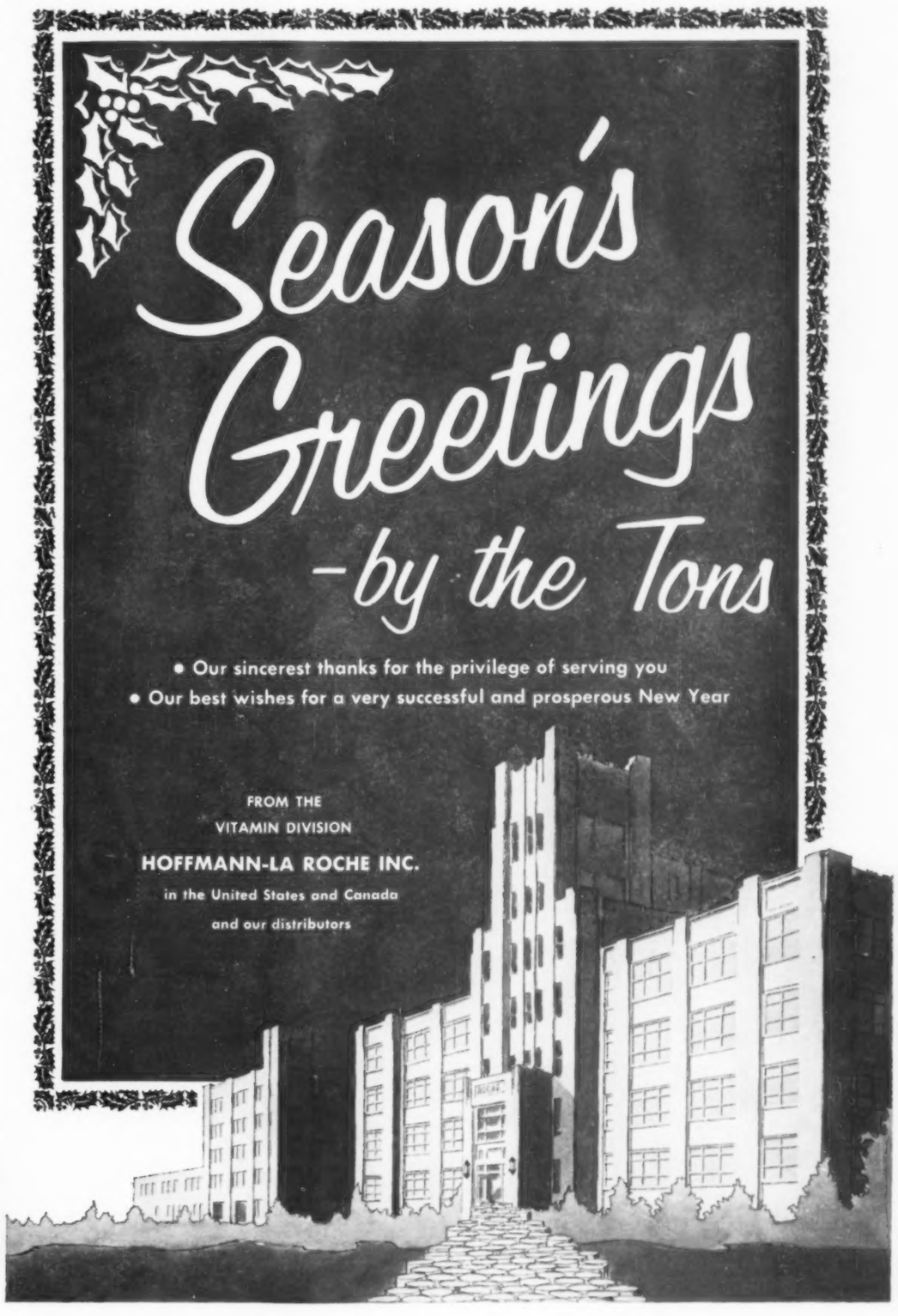
Serving with the U.S. Navy from 1937 to 1947 and holding a B.S. degree from the Naval Academy, Mr. Perry saw action in the Pacific area as part of the submarine service.

Joseph R. Perry

Wheat Advisory Council Sets Annual Meeting

SPOKANE, WASH.—The advisory council to the Western Regional Wheat Quality Laboratory has scheduled its annual meeting for Jan. 12 at Pullman, Wash., it has been announced. The meeting will be held at the Quality Laboratory to enable those attending to see the work done at the laboratory during 1959. The council was formed in 1946 to consult and advise on the conduct and progress of laboratory work.

A release from the Pacific Northwest Crop Improvement Assn. reports, "This is another example of the excellent cooperation between all agencies concerned with the development of our Pacific Northwest wheats and the mutual interests between them. Good milling and baking qualities are every bit as important as high yields and other agronomic factors in our wheat breeding program. The laboratory has the job of running all preliminary milling and baking trials on new wheat selections which have doubled the efficiency of plant breeders."


Season's Greetings
-by the Tons
• Our sincerest thanks for the privilege of serving you
• Our best wishes for a very successful and prosperous New Year
FROM THE
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HOFFMANN-LA ROCHE INC.
in the United States and Canada
and our distributors

Worth Looking Into

New Products
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This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 2149—Capsule For Blending

A new formula capsule which eliminates manual errors in blending, proportioning and batching operations by taking formulation out of the hands of the operator and automatically setting correct proportions of grains, flour, chemicals and similar materials has been introduced by Richardson Scale Co. Integrated with the Richardson "Select-O-Weigh" automatic proportioning panel, this pocket-size control consists of a network of miniature electronic components sealed in a shatter-proof protective cover. The capsule is capable of programming the sequence and weighing of up to 24 solid and/or liquid ingredients in a single formula. Each ingredient can be pre-set in the laboratory by a simple set-screw adjustment on the capsule. This rules out materials waste due to human error and allows precise duplication of the desired formula, batch after batch. By inserting the capsule into a portable capsule formulator (see photo) and moving the indicator switch to position 1, the desired weight of the first ingredient can be set on the formulator dial. Adjustment of the set-screw on the capsule, until the meter is brought into balance, assures perfect proportioning. Formula identification is made easy by use of a removable formula card that slips into place on the top edge of the capsule. A transparent cover locks the card into place. This prevents soiling and damage by dust while allowing full visibility of the formula and individual weight settings. For details, check No. 2149 on the coupon, clip and mail.

CAPSULE

FORMULATOR

No. 2153—Automatic Power Shovel

The J. B. Ehrsam & Sons Manufacturing Co. has available an automatic power shovel and tripping unit which it claims is safer, easier, faster and more economical for unloading bulk materials from boxcars and trucks. The machine is said to be simple, requiring a comparatively light supporting structure. Also, it has low power consumption and sturdy construction. It is possible, also, to add the Brooks Auto-Trip mechanism to the power shovel. Advantages claimed for the unit include elimination of rope and weight systems of operating the tripping mechanism, speedier unloading and elimination of the hazard of the weights injuring personnel in the event of rope breakage. For details, check No. 2153 on the coupon, clip and mail to this publication.

No. 2152—Bulletin Describes Purifiers

Allis-Chalmers Manufacturing Co.'s all-metal, twin-deck purifier for maximum sanitation, simplified housekeeping and minimum maintenance is described in a new bulletin released by the company. Such features as screen insert sections which can be removed while the machine is operating; immediatedly accessible parts, including air hood, for inspection and cleaning, and accurately balanced, mechanically stabilized twin decks assure increased capacity and improved performance, the company claims. Copies of "Allis-Chalmers Purifier," 06B7130D, are available on request. Simply check No. 2152 on the coupon, clip and mail to this publication.

No. 2150—Proximity Switch Available

General Equipment & Manufacturing Co. is offering a proximity switch containing only one moving part. The unit is self-contained in a 10 cu. in. hermetically sealed brass housing. It is claimed to be impervious to coolants, abrasive dust and dirt as well as temperatures ranging from −50° to 250° F. The switch operates without transistors, coils, tubes, relays or amplifier. It requires no power input and operates completely without physical contact with its actuating means. For details, check No. 2150 on the coupon, clip and mail to this publication.

No. 2151—Brochure On Dryers

General American Transportation Corp. is offering its latest brochure on Louisville rotary drying equipment. The brochure is liberally illustrated and contains sections on how to select driers for various uses, the numerous types available, and photographs of a number of different types. Construction features of several types of driers are illustrated, and a detailed design data sheet is included for the reader wishing to submit the specifications necessary for his material and particular situation. For a copy of this brochure, check No. 2151 on the coupon, clip and mail to this publication.

No. 7698—Product List

A complete list of industrial and specialty chemicals offered by Eastman Chemical Products, Inc., subsidiary of Eastman Kodak Co., is now available in a newly published product index. The industrial chemicals listing features data on physical properties as well as shipping information. Specialty products are described separately. There is also a section devoted to newly developed products now available for evaluation. For copies, check No. 7698 on the coupon and mail.

No. 7701—Scale Data Sheet

The HHH-38 automatic scale is described in a product data sheet offered by the Richardson Scale Co. According to company literature, the scale processes loads from 200 lb. to 600 lb. per discharge, providing high weighing accuracy and operating with materials such as abrasives, chemicals, feeds, foodstuffs, grains and minerals. The data sheet also contains a list of specifications and optional accessories as well as a scale drawing and photographs. For copies, check No. 7701 on the coupon and mail.

No. 7711—Belt Weigher Bulletin

A pneumatically-operated belt (stream) weigher for the continuous weighing of dry materials at low to medium rates is the subject of a bulletin published by B-I-F Industries, Inc. The Omega Pneu-Weigh, Model 36-20-W, is used for feed and flour mills, fertilizer and chemical plants, the company says. It has a range of 10:1 with constant speed drive and 50:1 with variable speed belt drive. It has a capacity of 0 to 3,000 lb. a minute. A pneumatic sensing device makes the feeder adaptable for recording, pacing and controlling other equipment. The bulletin contains a photo of the unit, lists its advantages and describes its operation and accessories. For copies, check No. 7711 on the coupon and mail.

No. 7723—Spot Removal Unit

Rolfes Grain Aeration Companies, announce the introduction of the "Spot-O-Rator," designed to eliminate crusting and hot spots in flat, small bin and vertical storage. The

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☐ No. 2149—Capsule	☐ No. 7701—Scale
☐ No. 2150—Switch	☐ No. 7711—Bulletin
☐ No. 2151—Dryers	☐ No. 7719—Bag Closing
☐ No. 2152—Purifiers	☐ No. 7720—Steamer
☐ No. 2153—Shovel	☐ No. 7723—Spot Removal
☐ No. 7698—Chemicals	☐ No. 9141—Thermometer

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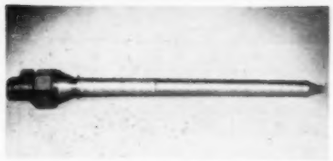


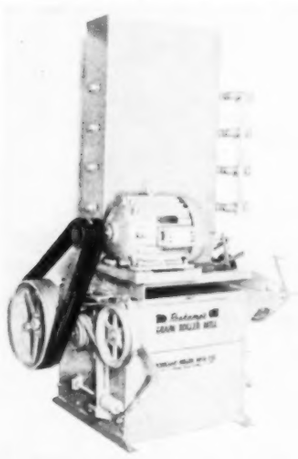
unit has a ⅓ h.p. high pressure centrifugal fan, and will deliver 420 C.F.M. against 1½ in. static pressure (water gauge) or 640 C.F.M. against ¼ in. static pressure. Another feature is a 10 ft. polyethylene apron. The apron is placed on the grain around the top of the duct which is inserted into the grain. The apron prevents short circuiting or channeling of air right next to the duct, the company says. For more information, check No. 7723 on the coupon and mail.

No. 7719—Bag Closing Machine

Crown-Zellerbach Corp. announces the development of the "Crown Thermo-Tape Machine" for in-plant closure of sewn bags with polyethylene-coated tape. The machine heat seals the coated kraft tape to the bag top to stop sifting. The unit, according to the company, fits into the production line in synchronization with the sewing machine. The filled multiwall bag moves into the sewing machine and then passes through the tape machine with no manual assistance. The tape cutting is automatic as is the tape feed mechanism. The tape, with as little as 10 lb. polyethylene coating gives permanent 100% seal against leakage through needle holes. Softened by heat, the polyethylene moulds to the stitch line in a permanent bond, the company says. For details, check No. 7719 on the coupon and mail.

No. 7720—Roller Mill Steamer

A box-type steamer is now available for the Roskamp 12 by 30 grain roller mill, announced Roskamp Huller Manufacturing Co., Inc. The steamer is designed for feed processors who roll barley, or who wish to get a better crimp on oats, the company says. The unit is made of 10 gauge metal and stands 48 in. high. For more information, check No. 7720 on the coupon and mail.

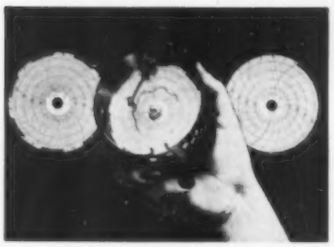


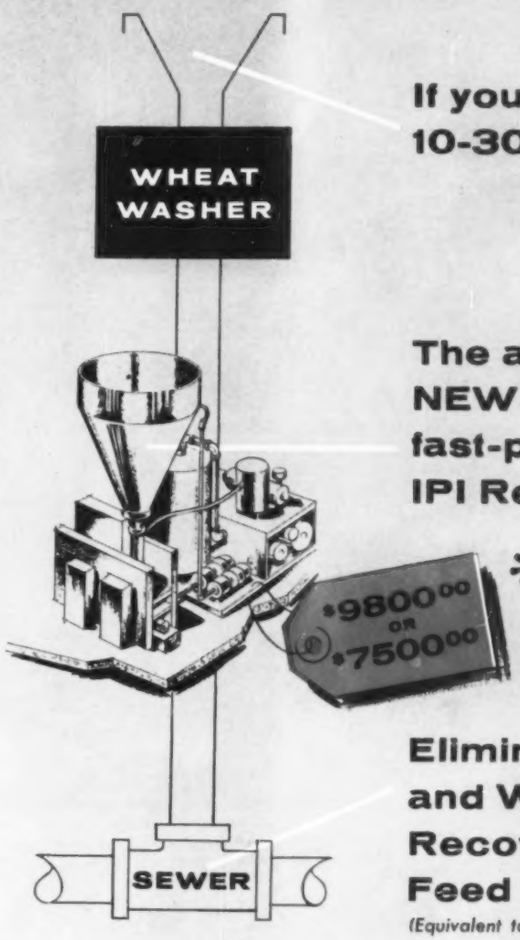
No. 7724—Counter Bulletin

A line of heavy-duty counters for indication, recording and automatic regulation of material is described in a four page bulletin released by Richardson Scale Co. The bulletin is illustrated with 13 photographs. Models designed for use with machinery all along the line of material flow, in receiving, process and inventory control, are discussed. Also described are integrated ticket-printing components and impulsing switches. One page shows the chief design features of five basic types of mechanically actuated counters. For copies, check No. 7724 on the coupon and mail.

No. 9141—Recording Thermometer

The Pacific Transducer Corp. announces a recording thermometer with dry stylus. The thermometer can be used in a number of industries, including food, chemical agriculture, research and others. For recording temperatures of liquids or wet environments, the instrument can be encased in a polyethylene bag. The unit utilizes a dry scriber. The thermometer uses a spring wound clock movement and is made in two different time ranges, either 20° F. to 220° F., or minus 40° F. to 160° F. For details, check No. 9141 on the coupon and mail.





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DUE TO A STRIKE, WE CANNOT OBTAIN DELIVERIES AND WILL CLOSE UNTIL THE SITUATION CHANGES.
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WE'RE WILLING TO WORK !
OUR UNION AINT ON STRIKE!
IT'S AN ILLEGAL LOCKOUT.
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WE'VE BEEN LOCKED OUT OF OUR JOBS.
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NOT WHEN WORK IS UNAVAILABLE AND NO DISPUTE EXISTS BETWEEN CONCERNED UNIONS AND EMPLOYER.
Based on a 1959 New York Decision

'Political Myths' Surrounding Wheat Reviewed by Kansas State Economist

MANHATTAN, KANSAS — There is no easy way out of the present wheat situation.

This is the way John Schnittker, Kansas State University agricultural economist, summed up a talk on "Wheat, Politics and Reality" before the opening session of a two-day Kansas Business Days conference at Manhattan recently.

Mr. Schnittker not only is convinced there is a substantial wheat surplus but he also thinks it is fairly important to wheat producers and the public to reduce the surplus. He said that if, by some magic, the wheat surplus could be wiped out in 1961 (and assuming that export programs continued at present levels), wheat marketings would still need to be cut 10% from recent levels.

The K-State agricultural economist sees two ways out of the present situation—a free market approach or effective marketing controls — and neither is "an easy way out," he contends.

If price supports are dropped far enough to reduce stocks substantially and regularly, "the income of wheat producers would fall sharply and remain low for many years," Mr. Schnittker commented. He thinks wheat prices could be below or near $1 bu. for five years under this approach. If, on the other hand, a "relatively free market" approach is adopted with acreage controls removed and prices are not cut enough to reduce output, he predicted the wheat surplus would continue to grow and would "soon pass two billion bushels."

Not for Faint-Hearted

"Reducing wheat acreage and production through reduced market prices is not a program for the faint-hearted," Mr. Schnittker commented. But effective marketing controls, the core to the second approach to the wheat problem, would require wheat marketings for each year from 1961 to 1965 to be reduced a third from recent levels if the market were to be cleared by 1965.

Much of Mr. Schnittker's talk was devoted to a discussion of what he termed "political myths" surrounding wheat. He listed four of these:

1. The myth that the major wheat problems of 1954-1960 were the result of continuing wartime price supports too long. Mr. Schnittker pointed out that the production expansion took place mostly between 1943 and 1950. This was a period when price supports were not an important factor in the market price, but when wartime demands made the wheat price very favorable. The reality, in his opinion, is that the wheat surplus would now be large, even had price support levels for wheat been considerably lower than they were.

2. The second political myth is that slightly lower wheat prices would reduce wheat production substantially in a fairly short time. Mr. Schnittker believes that if wheat support prices had been slashed 40 to 50% in 1954 ($1.10@$1.30 bu.), while other price supports were not being reduced sharply, that wheat production would be down now. But even this is not reality, Mr. Schnittker said, for the actual 1954 situation was a general farm commodity surplus problem for other grains, as well as wheat. An even sharper drop in wheat prices would have been required to reduce the relative price of wheat and wheat production.

Another "Political Myth"

3. The "loophole" in the wheat program that benefits eastern growers at the expense of the Plains states is another "myth" to the K-State economist. He pointed out that three-fourths of the wheat produced under the "loophole" is soft red winter wheat "for which stocks have been, and remain, low." While wheat produced under this "loophole" has contributed to the wheat surplus, the estimated 600 million bushels of this wheat produced since 1954 "is a poor measure" of this contribution. Mr. Schnittker said it is clear that only one class of wheat has been in excess of utilization prospects in recent years and that class is hard red winter wheat. This is true, he said, even though hard red winter wheat has benefited more than any other class of wheat from surplus disposal programs.

4. The fourth "myth" is that there really is no wheat surplus. This argument takes two forms. One argument is that wheat in Commodity Credit Corp. hands is of poor quality and unfit for human consumption. He saw no reason to believe this is so. The other argument is that wheat stocks are "food for a hungry world." While the K-State economist says there is merit in this, he thinks the case for wheat or other food as a foreign policy weapon "is often overstated."

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To Improve Sewing Machine Operations

By ARTHUR NICHOLS

NOT too long ago I visited a new plant equipped with the newest machines for sewing multiwall bags. As the foreman proudly showed me the operation, he remarked, "This is one of the most efficient operations of its kind in the country."

My answer came as a surprise to him. I said, "Yes, Joe, you have a very modern plant, 'but' I can see a number of things wrong with the adjustment of your sewing and conveying equipment, and the way they are being operated. If these things are corrected, your efficiency can be increased by at least 50%."

This is not an isolated case. Our experience over the years has shown

EDITOR'S NOTE: Mr. Nichols is manager of the sewing machine clinic service of West Virginia Pulp & Paper Co. He is one of the few sewing machine experts with a heavy background in the multiwall bag field.

that there is hardly a plant in the nation where the sewing machine operation cannot be greatly improved. As a matter of fact, by following a few simple rules, bag breakage and product losses totalling millions of dollars annually can be materially reduced.

Let us get down to a few specifics: It has been proved in the field that properly sewn bags will outperform bags improperly sewn by at least five to one. We also have discovered that a great majority of "bags are improperly sewn," causing a high percentage of bag breakage at the customer's operation.

Let us list some of the things that can happen when the sewing machine operation is not efficient.

1. Improper tension of thread.
   Result: Tight stitches, causing thread to cut into paper, thereby weakening the bag and causing it to rupture along the sewing line.

2. Improper number of stitches.
   Result: Too few stitches cause sifting or leakage of product. Too many stitches cause weakening of bag. The recommended stitch per inch is 3.0 to 3.5.

3. Slippage of "feed dog." This is caused by too little or too much pressure on the presser foot spring.
   Result: Too little pressure causes slippage of feed dog. Too much pressure forms a bind which interferes with proper feeding of bag. (A dull feed dog may react in a similar fashion.)

4. Improper timing between sewing head and conveyor belt.
   Result: Sewing line becomes uneven. This causes an unequal weight when bag is filled, increasing bag breakage.

5. Binding of tape (when tape is used).
   Result: Tape will bind in folding mechanism, causing digging of "feed dog" on tape, even though feed dog is sharp.

6. Dirty machines.
   a) **Result:** Where lint deposits build up in grooves of feed dog, there is an undue strain between the feed dog and throat plate, causing unnecessary wear.
   b) **Result:** Where there is an accumulation of lint and product around the moving parts, oil lines may plug, causing "freezing" and breakdown of equipment.

Since West Virginia organized its multiwall bag division about a year and a half ago, we have analyzed just about every kind of plant in the country which fills and closes bags.

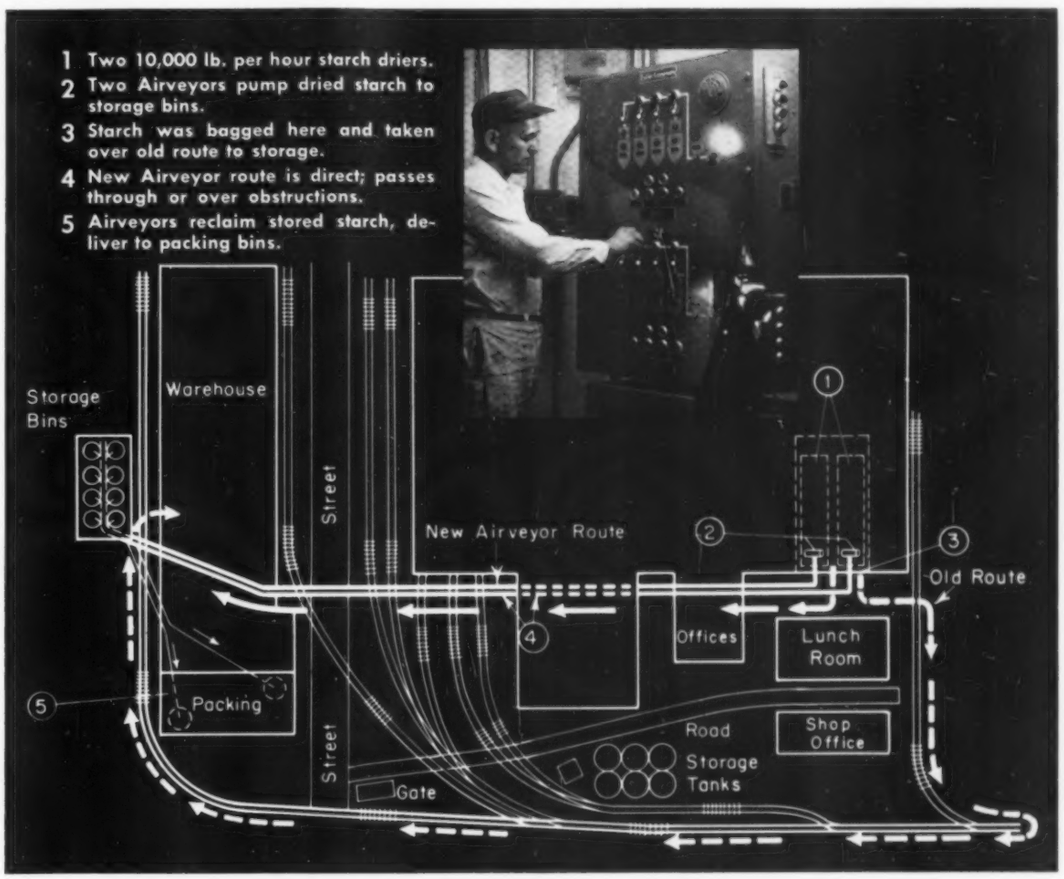
Much to the happy discovery of most managements, solutions to these sewing machine problems, which are not self evident, are surprisingly simple, and the reduction in bag breakage and product loss surprisingly large.

It takes long experience, however, to be able to detect trouble spots, because many are not easily detected on the surface. Also, once a trouble area is spotted, the trick is to know just exactly what to do to overcome it.

Making Clupak Paper

NEW YORK—Continental Can Co., Inc., has started production of Clupak paper at its Hodge, La., paper mill, according to a recent announcement by G. E. Amerman, president of Clupak, Inc.

Clupak paper will be produced for general converting purposes, with special emphasis on multiwall sacks, according to Mr. Amerman. Production capacity will be approximately 250 tons a day.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2 Two Airveyors pump dried starch to storage bins.
3 Starch was bagged here and taken over old route to storage.
4 New Airveyor route is direct; passes through or over obstructions.
5 Airveyors reclaim stored starch, deliver to packing bins.
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Warehouse
Street
New Airveyor Route
Old Route
Offices
Lunch Room
Packing
Road
Shop Office
Storage Tanks
Gate

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FULLER pneumatic conveying system increases production without plant expansion

To increase production, the Union Starch and Refining Company's Granite City, Ill., plant first needed to expand their materials handling system. But a complete revamping of bagging and warehouse operations was impossible because there was no space available for necessary new buildings.

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The Fuller Airveyor system transports the starch in two phases, from the driers to the storage bins and from the bins to receiving hoppers over the bagging machines. Flow is controlled automatically through control panels located in the drier room and at the bagging machines. Other controls are also provided at the panels for automatic operation of components such as feeders, blowers, conveyors and filter-receivers.

Besides being easily installed and automatically controlled, the Fuller system reduces both the amount and the expense of handling. Additional savings are made possible by Airveyor's self-cleaning facility, which greatly reduces maintenance costs.

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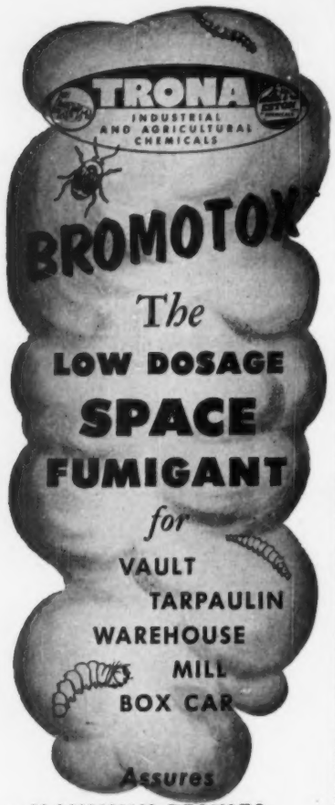

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New Manager Named For Buffalo Terminal

BUFFALO—Frank B. Ayers is the new resident manager of Buffalo Terminal Elevators, formerly the Connecting Terminal Elevator. He is a vice president of the new corporation, which has leased the elevator from the Pennsylvania Railroad.

Mr. Ayers comes to Buffalo after serving as superintendent of elevators at the Noblesville, Ind., operation of Buffalo Terminal's parent company, General Grain Corp., Indianapolis.

Buffalo Terminal will seek to expand its overseas and domestic markets through the Buffalo facility. More than half its shipments from Buffalo in the past 30 days has been grain loaded via rail for export, Mr. Ayers said.

—BREAD IS THE STAFF OF LIFE—

Vienna Manufacturer Makes Bag Elevator

VIENNA — An Austrian elevator manufacturer has designed a new bag elevator for grain, flour and similar products. Its capacity is 500 bags per hour, at any hoisting height. The chute can be designed for removing the bags mechanically or by hand. A special advantage of the new equipment is the fact that, owing to the design of the swinging guide cage, the bag is never turned upside down, which prevents damage and reduces dust to a minimum. The production program of the enterprise includes further different types of elevators and conveyors for bulk goods.

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Millstone Manufacturer

GLOUCESTER, ENGLAND — W. S. Barron & Son has been manufacturing millstones for 55 years and claims to be the only millstone maker in Britain. The firm has a world-wide reputation as milling and electrical engineers and iron founders. The stones are made of a composition of emery and chemical bonding materials. Over 75% of the firm's output is exported, chiefly to the Middle East and Mexico, but also to the U.S. where the millstones are used in special applications, mainly in the crushing of wheat, cereals and spices or fibrous materials.

—BREAD IS THE STAFF OF LIFE—

Pillsbury Planning Buffalo Loading Shed

BUFFALO—The Pillsbury Co. has announced plans for the erection of a $75,000 steel frame building to improve its facilities for loading freight cars at Buffalo. Work on the structure, to be known as a train shed, will start in mid-December and is scheduled for completion late in January.

A spokesman for Pillsbury said the shed will serve as a weather protection for freight cars being loaded with flour or grain or cars being unloaded.

—BREAD IS THE STAFF OF LIFE—

New Installations

DES MOINES, IOWA—Hot Spot Detector, Inc., Des Moines, has announced 47 recent installations of Hot Spot equipment in 16 states and Finland.

Distribution of the installations is as follows: Texas, 2; Michigan, 1; Iowa, 1; Nebraska, 8; Finland, 1; Missouri, 2; Illinois, 8; Ohio, 4; Kansas, 4; Georgia, 1; Arkansas, 3; Colorado, 2; Indiana, 3; Minnesota, 4; Mississippi, 1; North Dakota, 1, and Oklahoma, 1.

Seaway Traffic Tops Old Route

WINNIPEG — Preliminary traffic statistics issued by the Canadian and U.S. Seaway authorities show that 17.4 million tons of cargo were carried through the St. Lawrence Seaway (Montreal to Lake Ontario) in the current navigation season to the end of October.

This figure is 7.3 million tons, or 72%, in excess of the quantity of cargo carried by the old St. Lawrence canals in the corresponding period of 1958.

The upbound movement increased by 5.5 million tons (128%) and the downbound by 1.8 million (31%). Bulk cargo (as defined by the tariff) was 91% of the total.

These figures are subject to revision when all cargo returns have been processed.

Cargo transported through the Welland Canal to the end of October totaled 22.8 million tons, which was 24% greater than the traffic for the corresponding period of 1958. Upbound movement increased by 94% and downbound by 3%.

By the end of October, 5,861 vessels had passed through the St. Lambert lock, either upbound or downbound. Through passages on the Welland Canal for the same period numbered 6,771.

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Last 'Saltie' Clears Canadian Lakehead For the Season

WINNIPEG — The final "saltie" cargo for the 1959 season of navigation out of the Canadian Lakehead cleared on the freighter Forra, recently, according to latest figures released by the statistics branch of the Board of Grain Commissioners. The cargo was flaxseed for unload at a U.K. port.

The Forra cargo was the 71st direct overseas load from Fort William-Port Arthur terminals during the 1959 season. A combined total of 16.4 million bushels of wheat, oats, barley and flaxseed were carried by ocean going vessels direct from the Canadian Lakehead to overseas destinations during the first season of the new seaway. Ocean going vessels plying in the coasting trade carried a further 15.6 million bushels from Fort William-Port Arthur to St. Lawrence and Maritime ports during the current season.

Argentine Grain Shipments Higher, Wheat Exports Off

WASHINGTON — Argentine grain exports during the first quarter (July-September) of 1959-60 were 1.5 million metric tons, compared with 1.2 million tons a year earlier—an increase of about 24%, the U.S. Department of Agriculture reports.

Wheat exports in the first quarter of 1959-60 were 566,000 tons (a drop of 78,000 tons from the same period in 1958-59). Exports to Paraguay were 25,000 tons (an increase of 10,000), while exports to West Germany were 82,000 (an increase of 29,000).

Chile, France, and Lebanon took a total of 70,000 tons (none a year earlier). However, shipments to Brazil, the Netherlands, and the U.K. declined and Belgium and Norway took none at all, compared with 14,000 tons a year earlier.

Corn exports during July-September, 1959, were 823,000 tons, 233,000 larger than in the comparable quarter of 1958. There were outstanding increases in exports to Belgium, West Germany, Italy and Japan. The Netherlands and the U.K. took less.

Rye exports were down 12,000 tons from the same period in 1958. The bulk of the rye in both years went to Western Europe. Exports of oats during the first quarter of 1959-60 were only 5,000 tons, compared with 61,000 tons a year earlier. Exports to West Germany and the Netherlands dropped about 37,000 tons.

Barley Exports

Exports of barley (though minor compared with wheat and corn) were more than twice those a year earlier. The significant increase was in exports to West Germany—35,000 tons against 17,000 in the same period of 1958.

About 20,000 tons of millet and sorghums were exported in September, 1959, practically all of it going to Western Europe. Comparable data for earlier periods are not available because this is the first time exports of these products have been fully reported.

—BREAD IS THE STAFF OF LIFE—

MMC Sales Moves

BUFFALO—The MMC Sales Corp., formerly located at Hamburg, N.Y., has moved to Buffalo. The new address is 878 Bailey Ave. Bennett J. Lynch has been named office manager of the firm, according to a recent announcement.

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Western Canadian Spring Wheat Crop Shows High Protein, Baking Strength

WINNIPEG — Western Canada's 1959 hard red spring wheat crop is high in protein content and baking strength but bushel weight is lower than in 1958, according to reports released by the Board of Grain Commissioners' Laboratory.

Average protein content is 14.2%, based on analyses of 6,437 samples of No. 1 to No. 4 Northern, No. 4 Special, and Garnet grades from 1,782 shipping points in the three Prairie Provinces. This protein level is 0.4% higher than in 1958 and 0.7% higher than the long-term average, and has been exceeded only twice before, in 1941 (15.1%) and 1936 (14.9%).

Average protein levels for Provinces are: Manitoba, 13.3%; Saskatchewan, 14.6%; and Alberta, 13.6%. High-protein areas (over 14.9%) cover a large section of the western half of Saskatchewan and eastern Alberta. Below-average areas (11.0 to 12.9%) are mostly in Manitoba, northeastern Saskatchewan, and northern Alberta.

Average bushel weights of wheat cleaned for milling for grades 1, 2, 3 and 4 Northern are 64, 62, 61.2 and 61 lb., respectively, and corresponding protein contents are 14.1, 14.2, 14.0 and 13.8%. All four grades mill well and give good yields of flour. The first three grades are similar in flour qualities, but No. 4 Northern is higher in ash and gassing power, poorer in flour color, and lower in baking absorption. Nos. 1 and 2 Northern are essentially the same in baking strength, with a significant drop for No. 3 Northern and a further reduction for No. 4 Northern.

Production

Production is put at 392 million bushels, but a large volume of grain will remain unthreshed until spring because of bad harvesting weather. It is expected that No. 3 Northern will be the largest grade (about 38%), followed by No. 2 Northern (about 26%), and No. 4 Northern (about 21%). No. 1 Northern will be a very small grade this year. Although some No. 4 Special has been harvested, it is not likely that it will be available in commercial quantities because of limited space in country elevators for separate binning. Bushel weight will be more important than usual as a grading factor, and frost injury, bleaching, sprouting, and other forms of damage associated with wet weather will be the main causes for degrading. There will be a considerable volume of tough and damp wheat this year.

Durum Production

Production of durum wheat this year is estimated at 15.1 million bushels, based on 1.5 million in Manitoba, 12.8 million in Saskatchewan, and 0.8 million in Alberta. The new durum crop is high in protein content but down in bushel weight. The wheat is vitreous and mills very well, yellow pigment is high and dough properties are very good. Tests made on Nos. 2 and 3, Extra No. 4, and No. 4 show that the macaroni for the four grades has excellent color with brightness decreasing as grade goes down.

This year there is very little No. 1, and it is expected that about 50% of the crop will grade No. 3, about 25% No. 2, and about 7% each of Extra No. 4 and No. 4. As increasing quantities of 1959 durum wheat enter export channels, there will be a rise in average protein content and in percentage of vitreous kernels; macaroni color may be expected to improve, and dough properties will be somewhat better.

Crop Bulletin

Crop Bulletin No. 73 (Canadian Wheat 1959) and Crop Bulletin No. 74 (Protein Survey of Wheat) will shortly be released by the laboratory. Bulletin No. 73 contains comprehensive milling and baking data for different sets of samples of hard red spring wheat, and the semolina and macaroni qualities of different sets of durum wheat samples. Bulletin No. 74 contains protein data for hard red spring wheat by grades and Prairie Provinces, and alphabetical listings by Provinces showing mean protein values and ranges. A large hatched map, showing the origin of samples that fall into different protein ranges, is included with this bulletin.

CANADIAN RYE EXPORTS

WINNIPEG — The export movement of Canadian rye is well ahead of last year for the August-October period as a result of sharply increased imports by the U.S. Figures released by the statistics branch of the Board of Grain Commissioners show the overseas movement to be down noticeably. The three-month total this year stands at 1,763,000 bu., and of this 1,704,000 went to the U.S. The comparative figure last year was 623,000 bu. and included only 191,000 bu. shipped south of the international boundary.

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Victor S. Luke

West Virginia Names Multiwall Division Manager

NEW YORK—Multiwall bag operations of West Virginia Pulp and Paper Co. are being given full divisional status because of growing importance. At the same time, Victor S. Luke has been named to the newly created position of multiwall bag division manager, it was announced by David L. Luke, executive vice president, commercial.

Victor S. Luke holds a bachelor's degree in economics from Middlebury College and a master's degree in marketing from Wharton School of Finance and Commerce.

Initial Assignment

Mr. Luke's initial assignment with the company was at Mechanicville, N.Y., where he directed market research and financial analysis for the Merchant Paper Division. After five years he was transferred to the company's headquarters in New York City, where he was first assigned to special commercial studies for the corporate management. Later he worked in the development of markets for Brite-Pak Coated Board, a new product.

At the time of his new assignment, Mr. Luke was assistant sales manager of the company's bleached board division.

The multiwall bag division which Mr. Luke will head operates plants at New Orleans, St. Louis, Wellsburg, W. Va., and Torrance, Cal., and a multiwall packaging laboratory in Charleston, S.C.

——BREAD IS THE STAFF OF LIFE——

Top Wheat Varieties

WINNIPEG—The two leading varieties of wheat produced in western Canada increased their percentage of acreage during the 1959 growing season as compared with the previous year. The annual survey of the distribution of wheat varieties by the Searle Grain Co., Ltd., showed Thatcher occupying 49% of the wheat acreage and Selkirk 30.5%. Chinook was in third place with 4.2%, Rescue fourth with 3.2% and Saunders fifth with 1.8%. All durum varieties accounted for 5.1% of the total wheat acreage.

Two New Varieties Of Canadian Wheat Ready for Release

OTTAWA — Two new varieties of hard red spring wheat have been developed by the Canada Department of Agriculture and are ready for release to growers in the prairie provinces, the Hon. Douglas S. Harkness, Minister of Agriculture, has announced.

The varieties, "Pembina" and "Canthatch," were developed by the Rust Area Project Group centered at the department's Winnipeg research station.

Pembina has excellent milling and baking qualities. It is more resistant to rust and is slightly earlier than Selkirk, the dominant variety in the rust area at present. It is not quite as resistant to lodging as Selkirk. Pembina will be distributed to growers in Manitoba and that part of Saskatchewan east of the third meridian.

Canthatch also has good milling and baking qualities. It is similar to Thatcher in all characteristics, except that it is more resistant to stem rust. It is susceptible to leaf rust, and therefore not suitable for the rust area. Canthatch will be distributed in the parts of Saskatchewan west of the third meridian and east of the third meridian but north of Township 30.

Since this is the first release of these two varieties, seed stocks can be obtained only from the Canada Department of Agriculture. All seed distributed by the department will carry an official tag and seal.

——BREAD IS THE STAFF OF LIFE——

Canadian Exports Show Increase

WINNIPEG — Canada's outward movement of wheat and flour for the week ended Nov. 26 totaled 7,487,000 bu. The total movement a week earlier was 6,177,000 bu. The current total comprised the equivalent of 426,000 bu. flour. International Wheat Agreement countries took 268,000 bu. flour, in terms of wheat, while a week earlier IWA destinations took the equivalent of 1,152,000 bu. flour.

The largest shipment of IWA wheat moved to the U.K., with that country taking 2,789,000 bu. Other IWA destinations listed were: Germany, 2,484,000 bu.; Japan, 507,000; Netherlands, 220,000; Ireland, 75,000, and Belgium, 26,000 bu.

Two countries were listed for a shipment of Class 2 wheat totaling 960,000 bu. They were France, 463,000 bu., and Italy, 497,000 bu.

Moisture Tester Test Required in Nebraska

LINCOLN, NEB.—A new law requiring testing of grain moisture measuring devices has been enacted in Nebraska.

The State Railway Commission, grain warehouse department, is to enforce the provisions of this act. It will be in charge of inspections and establish tolerances and specifications recommended for use by the grain branch by the U.S. Department of Agriculture. The object of the bill is to establish more accurate grain moisture measuring.

It will be the duty of the inspectors to inspect every grain moisture measuring device used or employed in the state. The passed testers will be marked. Any device found defective will be marked as such and reported.

After one year from the effective date of the act, any person who buys or sells grain using any grain moisture device which hasn't been tested and approved for use by the supervisor of the grain warehouse department will be guilty of a misdemeanor. New devices should be reported to the department 10 days prior to the date of intended use.

Provisions of the new law were pointed out in a recent Grain & Feed Dealers National Assn. bulletin.

——BREAD IS THE STAFF OF LIFE——

Earl Davis Named To Kansas City USDA Position

KANSAS CITY — Appointment of Earl Davis as chief of the program operations division has been announced by Donald E. Smith, director of the U.S. Department of Agriculture's Kansas City Commodity Stabilization Service commodity office.

Mr. Davis is transferring to Kansas City from the Evanston, Ill. (formerly Chicago), CSS commodity office, where, since 1942, he has served in various capacities in connection with the handling, processing, storing, shipping, and merchandising of commodities. Prior to 1942 Mr. Davis served seven years each with the Rock Island Railroad and Booth Fisheries Corp., gaining wide experience in the transportation field.

As chief of the program operations division, Mr. Davis will be responsible for directing the management and disposition of grain commodities acquired under the Commodity Credit Corp. price support program in the five-state area of Colorado, Missouri, Kansas, Nebraska and Wyoming.

Mr. Davis succeeds Carl M. Heaton who was recently promoted to deputy director for programs, Kansas City commodity office.

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Sample only $1.45 postpaid (Industrial price only)

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MILLING WHEAT • COARSE GRAINS • MILLFEED
Hard and Soft Winter Wheat
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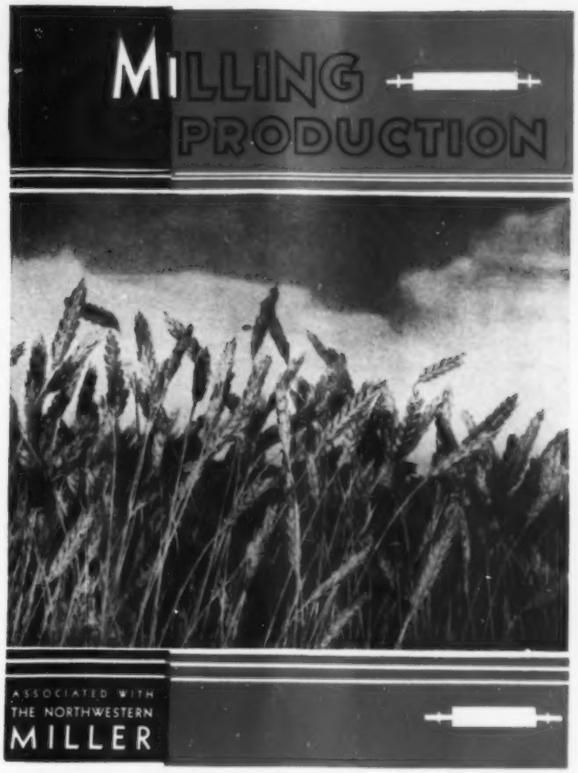
A. E. BAXTER ENGINEERING CO.
Designers and Engineers for Mills, Elevators and Feed Mills
1311-1315 GENESEE BUILDING BUFFALO 2, NEW YORK



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1. WORKING CIRCULATION —Studies of flour manufacture show that about 300 of the mills in this country produce 98% of the flour. Milling Production with its controlled circulation reaches more than 1,000 key men in these important flour mills. This working circulation provides contact each month with the people who directly or indirectly control the buying—superintendents, operative millers, chemists and plant managers. *There is no waste circulation—only working circulation* — and you are assured of reaching your potential customers in the most productive mills.

2. LEADERSHIP MAKES READERSHIP — Readership surveys and unsolicited correspondence from its readers attest to the editorial leadership of Milling Production. That editorial leadership is held by complete words-and-pictures reports of the latest milling technology, current news, features and complete coverage of the activities of the industry's two technical associations. *The real price the reader of a publication pays is the amount of time he puts in reading that journal.* Over one half of the readers of Milling Production have requested that it be sent to their homes so that they may enjoy uninterrupted reading pleasure.

3. DOUBLE-DUTY DOLLARS —Money spent for advertising in Milling Production does double duty. In addition to reaching the production personnel, the advertiser's message is read in the Milling Production Section of The Northwestern Miller by the executives who approve purchase orders. *No other advertising medium in the flour milling industry offers this double-duty feature of reaching both groups* — mill technologists and executives—with the same advertising message and for the cost of one advertisement. Take advantage of this 100% coverage through one double-duty advertising contract.

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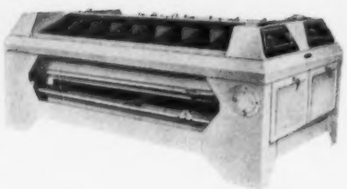
Simon-Carter makes the machines you need. Here are some of them.



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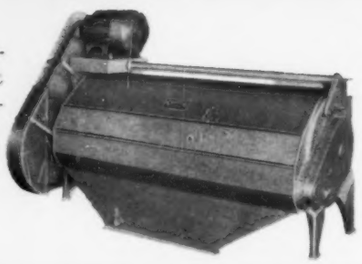

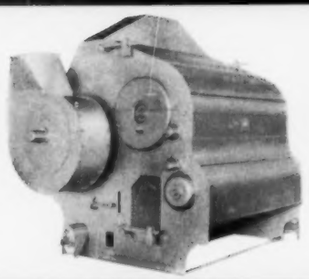

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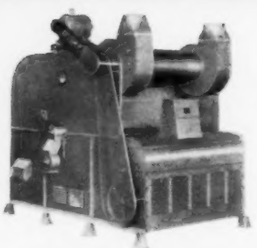

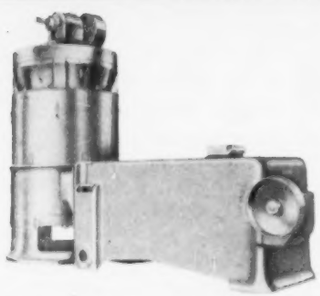

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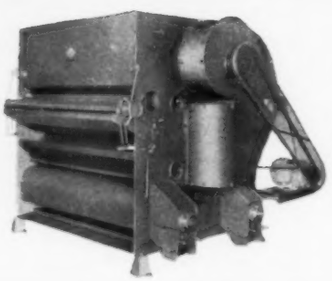

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